

ABSTRACT OF THE DISCLOSURE

A method of forming a capacitor includes forming first and second capacitor electrodes over a substrate. A capacitor dielectric region is formed intermediate the first and second capacitor electrodes, and includes forming a silicon nitride comprising layer over the first capacitor electrode. A silicon oxide comprising layer is formed over the silicon nitride comprising layer. The silicon oxide comprising layer is exposed to an activated nitrogen species generated from a nitrogen-containing plasma effective to introduce nitrogen into at least an outermost portion of the silicon oxide comprising layer. Silicon nitride is formed therefrom effective to increase a dielectric constant of the dielectric region from what it was prior to said exposing. Capacitors and methods of forming capacitor dielectric layers are also disclosed.

PROVISIONAL PATENT